Faculty Readiness and Institutional Capacity for Implementing Competence-Based and Innovation-Driven Teaching Approaches for Students with Visual Impairment in Public Universities: A Systematic Review of Uganda

DAVID NEWTON ODONG [1*], SHANKAR LAL BIKA[2], MICHAEL MUKHWANA[3]
JASWINDER SINGH[4]

[1]*Department of Education, Central University of Punjab, Bathinda, and Lecturer, Lira University*
[2]*Department of Education, Central University of Punjab, Bathinda*
[3]*Department of Visual Impairment Studies, Kyambogo University, Kampala*
[4]*Department of Education, Central University of Punjab, Bathinda*
**Corresponding author email:* odavidnewton@gmail.com
https://orcid.org/0009-0009-5790-1946

Accepted: 13th May 2026; Published: 20th May 2026

https://doi.org/10.58653/nche.v13i2.7

Abstract

Competence-based and innovation-driven teaching approaches are increasingly prioritised in higher education systems worldwide, particularly to enhance inclusive learning for students with visual impairment (SwVI). In Uganda, public universities are expected to align their instructional practices with the national competence-based curriculum reforms and equity commitments. This systematic review examined faculty readiness and institutional capacity to implement competence-based and innovation-driven pedagogical approaches for SwVI in Ugandan public universities. The review addressed four objectives: assessing faculty knowledge and preparedness; determining faculty attitudes towards inclusive, innovation-driven teaching; examining institutional resources and technologies for competence-based learning; and

exploring institutional support systems and policy structures that influence inclusive teaching for SwVI. Following the PRISMA guidelines, 24 peer-reviewed studies in Uganda, government policy documents, disability-inclusion frameworks, and accessibility standards, published in the last six years (2020-2025), were analysed. Findings indicate that while faculty demonstrate general awareness of Competence-Based teaching principles, most lack specialized training in inclusive pedagogies and accessible technology. Attitudes towards innovation-driven teaching are moderately positive; however, perceived workload, insufficient incentives, and inadequate institutional guidelines limit their implementation. Institutional capacity remains constrained by limited access to assistive technology, inaccessible digital platforms, and inconsistent implementation of inclusive policies. The review concludes that the successful adoption of competence-based, innovation-driven teaching for SwVI requires strengthened professional development, investment in assistive technologies, accessible digital ecosystems, and robust institutional governance frameworks. The study recommends mandatory faculty training, harmonization of policies across universities, integration of World Wide Web Consortium (W3C)/World Wide Accessibility Initiative (WAI) accessibility standards, and the establishment of comprehensive disability support centers.

Keywords: *Competence-Based teaching; Innovation-driven pedagogy; Visual impairment; Inclusive education; Assistive technology.*

Introduction

Competence-based and innovation-driven teaching approaches have become central to higher education reforms globally, emphasising learner autonomy, practical skill application, creativity, and problem-solving (Amri, Kistemaker, & Bwalya, 2022). These instructional models are particularly crucial for students with disabilities, including SwVI, who require accessible learning environments and adaptive technologies to participate meaningfully in academic tasks. In Uganda, the transition towards competence-based education has been reinforced through national policy directives such as the National Policy on Disability in Uganda (2020), the Higher Education Qualifications Framework,

and institutional commitments under the Inclusive Education Policy Framework (Ministry of Education and Sports [MoES], 2021 (Nyanzi & Mahmood, 2026).

Despite these policy ambitions, there is limited empirical clarity regarding the preparedness of faculty members and the institutional systems that support inclusive, competence-based instruction for SwVI. Public universities, which host the majority of SwVI in higher education, face increasing expectations to deliver equitable and accessible learning experiences. The successful implementation of competence-based and innovation-driven teaching for SwVI depends on teacher readiness, institutional technologies, and the availability of enabling policies and support structures (Léonard & de Dieu, 2021; Ssenyonga et al., 2024; Nyanzi et al., 2024). This systematic review synthesises recent research (2020–2025) to evaluate the readiness of faculty and the capacity of public universities in Uganda to implement competence-based, innovation-driven, and inclusive pedagogical practices for SwVI.

Therefore, while the Ugandan education system has been undergoing several transformations and reforms through the enactment and implementation of policies, government and other stakeholders look ill-prepared to support implementation and to promote a competence-based curriculum that produces teachers who can support SwVI at all levels, including higher education institutions (HEIs) (Thomas, 2021; Sikoyo et al., 2023b).

Faculty readiness is a multidimensional construct that goes beyond the mere willingness to teach students with disabilities. It is often operationalised in terms of four core dimensions: beliefs, knowledge, designs, and actions (Morgado & Sánchez-Díaz, 2024). In Ugandan public universities, faculty readiness is frequently hindered by a lack of formal training and poor coordination among university units, resulting in limited capacity to adapt teaching and assessment processes for students with visual impairments.

Makoelle and Burmistrova (2025) describe teachers as "gatekeepers" of inclusive education, noting that their attitudes and pedagogical choices directly dictate whether a student feel included or marginalised. However, teachers' readiness also involves shifting from

reactive responses to adjusting when a student with a disability is present. Proactive designs are rooted in Universal Design for Learning (UDL), in which teachers should be prepared to offer multiple presentations and representations. However, in many African HEIs, faculty members often perceive SVIs as a "silent minority", resulting in educational environments where pedagogical strategies remain largely exclusive and fail to leverage contemporary assistive technologies (Amponsah et al., 2024; Ampratwum, 2025). Innovation also requires moving beyond traditional braille towards digital "paper/pen" substitutes (Ashraf et al., 2023). Despite the ratification of the Marrakesh Treaty in 2018 to facilitate access to published works for the visually impaired, Ugandan universities still face a "policy-implementation gap" (Baguma & Wolters, 2021; Mahaseth, 2018).

Objectives of the Study

1. To assess faculty knowledge and preparedness to implement competence-based and innovation-driven pedagogical approaches for students with visual impairment in public universities.
2. To determine faculty attitudes towards adopting inclusive competence-based and innovation-driven teaching practices for students with visual impairment.
3. To examine institutional resources, technologies, and infrastructure available to support inclusive competence-based learning for SwVI in public universities.
4. To explore institutional support mechanisms and policies that influence the adoption of competence-based and innovation-driven teaching for students with visual impairment.

Methodology and Research Design

This study adopts a systematic review design to synthesise empirical and policy secondary data sources to provide evidence on competence-based, innovation-driven teaching for SwVI (Okoli, 2015). This approach was suitable for mapping trends, challenges, and institutional factors that shape inclusive pedagogy in public universities in Uganda. A comprehensive search was conducted in databases including ERIC, Scopus, Google Scholar, and PubMed for studies published from January 2020 to January 2025.

The search strategy

The search strategy primarily focused on peer-reviewed empirical studies and policy documents published in the last 6 years (2020–2025) to identify the most recent literature addressing the research questions. The search strategy included keywords and Boolean search strings (AND, OR), as well as proximity operators (SAME, NEAR). Thus, the keywords used include: "Competence-Based Teaching" OR "Competence-Based Learning", "Innovation-driven pedagogy" OR "Creative Pedagogy", "Visual Impairment" OR "Visual Disabilities", "Assistive technology" OR "Adaptive Technologies", "Faculty Readiness" OR "Faculty Preparedness" "inclusive learning" OR "Inclusive Education", "Uganda Public Universities" OR "Uganda Higher Education Institutions", "Proficiency-Based Learning" NEAR "Competence-Based Teaching", "Assistive Devices" NEAR "Assistive Technology", Students with Visual Impairment" NEAR "Visual Impairment", "Transformative Teaching" NEAR "Innovation-driven Pedagogy", "Inclusive Learning" SAME "Differentiated Instruction", and "Institutional Supports" AND "Inclusive Public Universities".

Inclusion and exclusion criteria

Innovation-driven inclusive education involves strategically integrating virtual learning environments and assistive technologies to foster autonomy. In Uganda, while blended learning is increasingly adopted, many stakeholders are still lagging in adopting the use of assistive technologies (Rodríguez-Villamil et al., 2025). For instance, although platforms like Moodle, TheBee, Google Meet, and other learning management systems (LMS) might be technically accessible, they often remain exclusionary because they lack user-centered design practices specifically tailored for SVI (Rodríguez-Villamil et al., 2025).

Inclusion criteria

To improve the rigour and relevance of the review, the search results were screened and selected based on their importance to the study purpose. Thus, peer-reviewed empirical studies, reports, and/or policy literature focusing on competence-based and innovation-driven pedagogical approaches for the inclusion of students with visual impairment or disability, attitudes towards adopting inclusive competence-based

learning, institutional resources, support mechanisms, and policies, with a focus on higher education, particularly public universities in Uganda, were included. Also included were studies published in English in the last six years (2020-2025), focusing on higher education. The time frame was selected to capture recent evidence on competence-based and innovation-driven teaching approaches and inclusive practices in higher education. Additionally, the period reflects recent global and national educational transformations, including digital learning innovations accelerated by the COVID-19 pandemic, as well as advancements in assistive technologies and accessibility strategies for students with visual impairment. Limiting the review to the most recent five years also ensured the inclusion of current institutional practices and faculty preparedness, thereby enhancing the relevance and applicability of the findings to contemporary public university contexts in Uganda.

Exclusion criteria

This study excluded literature from studies focused on primary or secondary education, publications before 2020, and non-academic sources lacking credibility (Jaber Fadlallah et al., 2025). Therefore, data that did not address the current issues of competence-based curriculum and SwVI in HEIs, lacked sufficient data on faculty readiness and institutional capacities, or did not focus on SwVI or on institutionally driven initiatives were excluded from this study.

Table 1: *Eligibility criteria*

Phenomenon of interest	Faculty readiness and institutional capacity for implementing competence-based and innovation-driven teaching approaches for students with visual impairment, technologies, infrastructure, and institutional support mechanisms and policies
Context	Public universities in Uganda
Study design	Empirical literature, reports, and policy documents published from 2020 to 2025

The selection process

The PRISMA 2020 checklist guided the review process. The included studies were assessed for relevance, methodological rigour, and alignment with the review objectives (Page et al., 2021). The review process was phased into identification, screening, suitability, and inclusion. Using descriptors, the preliminary search generated 520 results from various databases, including ERIC, Google Scholar, other Scopus databases, and Web of Science. Additionally, 48 articles were identified manually from other databases, such as university repositories and government and policy documents, bringing the total to 568. In the second phase, after reviewing the abstracts, 568 articles were evaluated, and 118 duplicates were removed, leaving 450. After a thorough screening of the 450 abstracts and articles, 310 were removed because they were not focused on higher education, the SwVI approach, competence-based learning, or innovation-driven approaches, or because they lacked a clear focus on the research questions. This resulted in the selection of only 140 articles and abstracts. The full texts of the remaining 140 articles were studied thoroughly to ensure that the designated studies met the criteria for the research questions. These articles and abstracts were then assessed for eligibility. After a thorough evaluation, 115 were removed again at this stage, with reasons given. Accordingly, 24 literature documents, including articles, reports, and policy documents, that were studied in Uganda, as well as others studied in East Africa that included the Ugandan context, were incorporated into this study (see Figure 1).

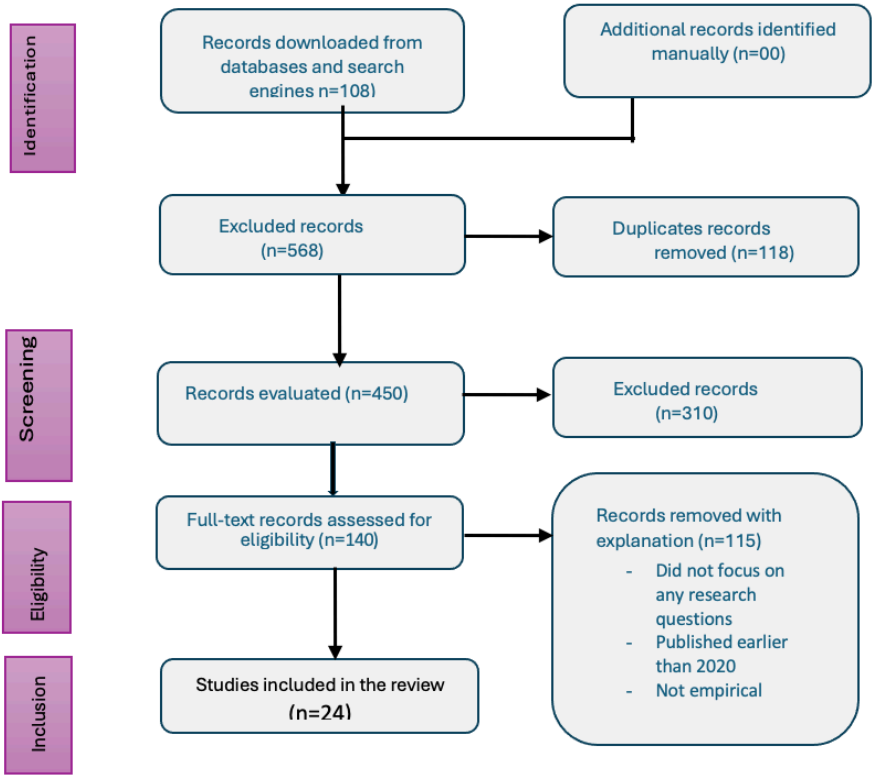

Figure 1: *Flow chart of the PRISMA Systematic Review process*

Note: *The flow chart of the PRISMA Systematic Review process was adapted from Moher (2010).*

Critical appraisal selected studies

To ensure methodological rigour and the reliability of the evidence, the literature, particularly the empirical studies, underwent a quality assessment. Quality assessment is considered an essential component of systematic reviews because it strengthens confidence in synthesised findings and minimises inclusion of methodologically weak studies (Munn et al., 2018). The quality appraisal focused on the clarity of study objectives, appropriateness of research design, adequacy of sampling procedures, transparency of data collection methods, validity and reliability of analytical techniques, clarity of findings and conclusions,

and relevance to the review objectives. The quality of the included studies was assessed using the Mixed Methods Appraisal Tool (MMAT) developed by Hong et al. (2018), which is widely applied in systematic reviews involving qualitative, quantitative, and mixed-methods empirical studies. This was suitable because the included literature, especially empirical studies, applied different methodologies.

Analysis and synthesis of data

The studies reviewed for alignment with the research questions were analysed deductively. Therefore, the findings are presented in themes predetermined from the research objectives, including Faculty Knowledge and Preparedness, Faculty Attitudes Towards Inclusive Innovation-Driven Teaching, Institutional Resources, Technologies, and Infrastructure, and Institutional Support Mechanisms and Policies. Despite the methodological differences, all findings are presented thematically. No statistical findings have been presented. Thus, details of the 24 selected studies were evaluated and tabulated to generate a comprehensive dataset to aid in the review process (see Table 2).

Table 2: *Sample literature documents analysed*

S/N	Author /(S)/ Year	Location	Title	Purpose	Methodology	Key Findings
1	Mugisha, & Ssekamanya (2021)	Uganda	Accessibility and participation of students with visual impairment in Ugandan public universities	To assess accessibility, faculty readiness, and participation of students with visual impairment	Mixed-methods design (surveys and interviews)	Teaching was mainly lecture-based, with limited assistive technologies, and the faculty lacked confidence in adapting assessments.
2	Okwera & Lwanga (2021)	Uganda	Faculty preparedness for competence-based education in higher education institutions	To evaluate faculty readiness to implement competence-based education reforms	Quantitative cross-sectional survey	Faculty awareness of CBE was moderate; there was a weak linkage between CBE and inclusive teaching; assessment remained examination-oriented.
4	Kintu & Bwire (2023)	Uganda	Institutional capacity for inclusive competence-based education in Ugandan universities	To assess institutional readiness for inclusive competence-based education	Mixed-methods study	Disability inclusion is weakly integrated into curriculum reforms; disability units are underfunded.

5	World Bank (2023)	Sub-Saharan Africa (incl. Uganda)	Inclusive higher education and skills development in Sub-Saharan Africa	To examine systemic factors influencing inclusive skills development	Secondary data analysis and institutional case studies	Faculty readiness was central to inclusive learning outcomes; institutional capacity gaps limited innovation.
6	Ministry of Education & Sports (MoES) (2024)	Uganda	National Framework for Inclusive Higher Education	To provide policy guidance for inclusive, competence-based teaching in universities.	Policy framework synthesis with stakeholder input	Identifies faculty training gaps and weak institutional coordination.
7	Sikoyo, et al. (2023)	Uganda	Staff Capacities for Inclusive Teaching and Learning of Students with Visual Impairment: A Case of Public Universities	To explore academic staff capacities for inclusive teaching of students with visual impairment (SwVI)	Qualitative case study (interviews, focus groups, document analysis, observation)	Staff lacked awareness and sensitivity to SwVI needs, exhibited poor coordination across units, and received limited training.

8	Sikoyo et al. (2025)	Uganda	ATEVIL Project Team on Unlocking Potential for Enhanced Teaching and Learning of Students with Visual Impairment: The Role of Assistive Technologies	To strengthen educator capacity and support SwVI through the use of assistive technologies	Mixed qualitative and design-based project implementation with training interventions	Training improved awareness and inclusive teaching strategies, empowering students with assistive technology.
9	Assessing the Accessibility and Inclusiveness of E-Learning Systems for Visually Impaired Students (2025)	Uganda	E-Learning Accessibility Review	To review the accessibility and usability of e-learning platforms for SwVI in Ugandan universities	Systematic literature review	Barriers include a lack of an accessibility policy, infrastructure limitations, and poor user-centred design.

10	Tuliwangula & Tumwesigye (2025)	Uganda	The Impact of Assistive Technology on Learners with Visual Impairment in Uganda	To analyze the impact and challenges of assistive tech for SwVI learners	Review of national data and initiatives	Lack of teacher expertise with assistive devices; inadequate funding.
11	ACERWC/ UNICEF (2024)	Regional report, Africa (Uganda)		Children with disabilities	Status of children with disabilities across Africa: policy comparisons	Highlighted regional disparities in inclusive education, gaps in policy implementation.
12	Amri et al. (2022)	East Africa/ Africa (Uganda)	Trends in competence-based pedagogy and implications for inclusive learning		Higher education institutions	Trends in competence-based pedagogy and implications for inclusive learning
13	Ministry of Education & Sports (MoES) (2020)	Uganda	Policy document	National education sector	Education & Sports Sector Strategic Plan	The strategic plan emphasizes inclusive education, digital learning, and accessibility.

14	Ministry of Education & Sports (MoES) (2021)	Uganda	Policy framework	Higher educatin	Inclusive Education & Disability Framework for Higher Education	Sets standards for inclusion, faculty training, and accessibility in universities
15	Ministry of Gender, Labour and Social Development (MGLSD) (2023)	Uganda	Policy document	Persons with disabilities	Revised national policy	Updated legal framework for the rights of persons with disabilities
16	Mugisha (2020)	Uganda	Empirical study	Ugandan universities	Higher education access & participation for students with visual impairments	Policy-practice gaps limit participation; infrastructure and faculty training are key barriers
17	Nakibuuka & Sentongo (2022)	Uganda	Survey study	Ugandan public universities	Faculty readiness for competence-based curriculum	Many faculty members are not fully prepared for inclusive pedagogical methods.

18	National Council for Higher Education (NCHE) (2021)	Uganda	Policy/guideline	Higher education institutions	Inclusive higher education & quality assurance	Provides policies, guidelines, and circulars for inclusive higher education.
19	National Disability Council / Uganda (2024)	Uganda	Assessment report	Public universities	Access & participation of students with special needs	Revealed access gaps and participation barriers in public universities.
20	Obondo et al. (2023)	Uganda	Qualitative study	Ugandan universities	Barriers to inclusive pedagogy	Faculty perspectives: lack of training, resources, and policy enforcement.
21	Parliament / Government of Uganda (2020)	Uganda	Legal document	National	Persons with Disabilities Act	Establishes rights and provisions for inclusion in education and employment.
22	Schools 2030 / UNICEF (2023)	UNICEF	Country profile	Uganda	Understanding learning differences	Highlights the need for differentiated instruction and inclusive practices.

23	Nakibuuka, & Sentongo (2022)	Uganda	Survey study	Ugandan public universities	Faculty readiness for competence-based curriculum	Many faculty members are not fully prepared for inclusive pedagogical methods.
24	Emong & Eron (2016)	Uganda	Disability Inclusion in Higher Education in Uganda: Status and Strategies	To explore the state of disability inclusion and strategies in Ugandan higher education (includes visual impairment)	Mixed qualitative (interviews, workshops, questionnaire)	Evidence of discrimination and exclusion in access, assessment, and support services.

Note: *Table 2 shows the Sample literature documents finally selected and included in the analysis for this study.*

Findings

The articles reviewed were summarised by the investigator and resulted in the following: 2016 (01), 2020 (03), 2021 (04), 2022 (04), 2023 (06), 2024 (03), and 2025 (03). Total = 24 (Reviews). One article from 2016 mentions a policy document that increased the accessibility of higher education institutions for students with disabilities (SWDs) and students with visual impairments (SwVI). The document addresses accessibility and outlines some procedures, though it lacks clear strategies for a competence-based curriculum and for innovation-driven approaches. The findings were presented in four thematic areas derived from the study's objectives: faculty knowledge and preparedness; faculty attitudes towards inclusive innovation-driven teaching; institutional resources, technologies, and infrastructure; and institutional support mechanisms and policies.

Faculty knowledge and preparedness

Most faculty members in Ugandan public universities demonstrate a general understanding of competence-based education principles; however, specialised knowledge related to inclusive competence-based strategies for SwVI remains limited (Obondo et al., 2026; Nakibuuka, 2026a). Studies indicate inadequate training in accessible curriculum design, non-visual instructional strategies, the use of assistive learning technologies, and digital accessibility requirements (MENSAH, n.d.; Mensah, 2020)

Most lecturers rely on traditional teaching approaches, citing limited exposure to Universal Design for Learning (UDL) and assistive technology applications. The absence of structured institutional training programmes negatively influences faculty preparedness. This is an indicator of individual lecturers' gaps, whereby an individual lecturer may have a positive attitude towards implementing the competence-based curriculum for SwVI but lacks the capacity due to insufficient training in inclusive competence-based curriculum implementation (Obondo et al., 2023).

Faculty attitudes towards inclusive innovation-driven teaching

Faculty attitudes are moderately positive but constrained by perceived instructional burdens, lack of incentives, and limited institutional guidance. While lecturers acknowledge the importance of competence-based innovation (e.g., project-based learning, blended learning), many view inclusive adaptation for SwVI as time-consuming and technically demanding (Grossi et al., 2023). Positive attitudes correlate strongly with prior training and access to assistive technologies (Odong, et al., 2026).

Institutional resources, technologies, and infrastructure

The review reveals widespread shortages in the following areas: braille displays, screen readers (e.g., JAWS, NVDA), accessible learning management systems (LMS), tactile graphics equipment, and digital accessibility compliance (Ssenyonga & Hecker, 2021). Most public universities in Uganda fail to meet the W3C/WAI accessibility guidelines, which are global guidelines that enumerate how learning content, both offline and online, should be more accessible to people with disabilities (PWDs). However, owing to human resource capacity gaps in HEIs in Uganda, this global initiative remained unimplemented because e-learning content is usually inaccessible (W3C, 2023). ICT departments often lack personnel trained in accessibility compliance, and library systems rarely offer fully accessible digital repositories (Kyambade et al., 2025a; Yamo & Muthee, 2026a).

Institutional support mechanisms and policies

Policy frameworks exist, but implementation is inconsistent (Odong et al., 2026). Although universities have disability support offices, they are frequently understaffed and underfunded (Bakkabulindi, 2024; Edward, 2024) Key institutional gaps include the absence of clear guidelines for competence-based, inclusive teaching; weak monitoring systems for accessibility compliance; limited budget allocation for assistive technology; and fragmented collaboration between disability units and academic departments. Some universities have initiated accessibility audits and staff development programs, but progress remains uneven.

Discussion

The findings reveal a significant disconnect between national inclusive education policies and university teaching practices. While competence-based education is recognized as essential for 21st-century learning, faculty members lack the training and resources to adapt these pedagogies for visually impaired learners. These challenges echo regional trends across East African HEIs, including Uganda (Kibuuka, 2025). The discussions were conducted based on the study's objectives: faculty members' knowledge and preparedness; faculty attitudes towards the implementation of the competence-based curriculum; institutional resources; and institutional support and policies.

Knowledge and preparedness of faculty members to implement a competence-based curriculum and innovation-driven pedagogical approaches for SwVI

Regarding the knowledge and preparedness of faculty members (teachers or lecturers), several issues were identified. The study found that faculty members or lecturers are aware of the competence-based curriculum. However, there is very weak integration of the curriculum to enhance the teaching and assessment of SwVI in HEIs (Okwera & Lwanga, 2021). The inability to integrate the curriculum for all students demonstrates a lack of teachers' knowledge (MoES, 2024). Although some scholars claim that teachers are aware of the competence-based curriculum, evidence suggests that some are not fully aware of it (Kyambade et al., 2025). A lack of teachers' expertise in implementing the competence-based curriculum is a clear indicator of their limited knowledge of teaching SwVI (Lwanga, 2025; Peter & Tumwesigye, 2025; Yamo & Muthee, 2026). The outstanding finding here is that many faculty members are not fully prepared to apply their pedagogical skills to promote inclusive practices for SwVI in HEIs (Kibga et al., 2022; Nakibuuka, 2026). There is a need to integrate the inclusive competence-based curriculum into all HEIs' curricula for SwDs and SwVI. Also, faculty members in HEIs should undergo refresher courses or continuous professional development (CPD) through workshops and seminars to retool themselves, prepare to implement the competence-based curriculum, and adapt inclusive strategies for all students, including SwVI.

Faculty attitudes towards the implementation of the competence-based curriculum and innovation-driven teaching practices for SwVI

Regarding teachers' attitudes towards the implementation of a competence-based curriculum, the upbeat yet cautious faculty attitudes highlight the importance of institutional leadership in setting expectations, offering incentives, and mainstreaming disability inclusion into pedagogical training. Meaningful implementation of innovation-driven teaching approaches requires a supportive ecosystem, including technological, administrative, and policy support, as well as sustainable funding. While results indicate support for SwVI, there is also growing evidence of discrimination and exclusion of SwVI in HEIs, including access discrimination and exclusion in terms of accessibility, assessment, and support services (Emong & Zeyen, 2023; "author":[{"family":"Emong","given":"Paul"},{"family":"Zeyen","given":"Anica"}],"issued":{"date-parts":[["2023"]]}}],"schema":"https://github.com/citation-style-language/schema/raw/master/csl-citation.json"} Emong & Eron, 2016). As observed here, awareness creation needs to be undertaken to transform teachers' attitudes to adapt the resources, such as content, activities, and methods, to improve the support services for SwVI through integration into the competence-based curriculum.

Institutional resources, technologies, and infrastructures available to support an inclusive competence-based curriculum

Regarding the institutional resources, technologies, and infrastructures available to support a competence-based curriculum, the study noted that the lack of accessible digital platforms reflects global concerns about inequalities in technology-driven education. Integrating W3C/WAI accessibility standards into university ICT policies is crucial for ensuring that digital learning environments comply with international guidelines (ATEVIL Project Team, 2025; World Bank, 2023; Amri et al., 2022; ACERWC/UNICEF, 2024). A growing concern in HEIs in Uganda is the unavailability of resources. However, teachers lack the knowledge and skills to use assistive technologies and other electronic devices, and insufficient enforcement of policies prevents access to these resources. Also, teaching is mainly lecture-based, with limited assistive technologies, and the faculty lacked confidence in and knowledge

about adapting these technologies to meet the learning needs of SwVI. As observed above, digital platforms improve the effective delivery of the competence-based curriculum. However, some teachers lacked the skills and knowledge to design accessible content for SwVI. This means that the existing policies should be available on a website accessible to different stakeholders to promote their use by integrating them into a competence-based curriculum in HEIs in Uganda.

Institutional support mechanisms and policies that influence the adoption of competence-based curriculum and innovation-driven teaching for SwVI

Regarding the support services teachers provide in implementing the competence-based curriculum, several issues were observed. There is a very weak integration of disability-inclusive activities into the competence-based curriculum. Also, very few reforms regarding disability support services and inadequate funding for disability activities were observed (Kintu & Bwire, 2023), as were a lack of an accessibility policy, infrastructure limitations, poor user-centred design, disparities in inclusive education, and gaps in policy implementation (ACERWC/UNICEF, 2024). Here, the duo observed significant weaknesses in implementing a competence-based curriculum for SwVI and noted some positive support for such a curriculum (Amri, 2021). The strategic plan emphasises inclusive education, digital learning, and accessibility Ministry of Education and Sports, (Moses & Prema, 2026). There are also set standards for inclusion, faculty training, and accessibility in universities. An updated legal framework for the rights of PWDs and policy-practice gaps limit participation; in addition, infrastructure and faculty training are key barriers (Watsemba et al., 2024). The Parliament of the Republic of Uganda establishes rights and provisions for the inclusion of a competent person in education and employment, including SwVI trained in a competence-based curriculum (Tusiime & Alemu, 2023). However, many faculty members are not fully prepared to implement inclusive pedagogical methods. Many gaps were identified in the support services provided to SwVI in HEIs, indicating that teachers are not practising in accordance with the policy and that some assistive technologies are not being used. More awareness-raising and enforcement of existing laws, policies, and other legal frameworks are needed. The institutional

administration should design some operational legal frameworks that support SwVI and make it accessible to all stakeholders, including SwVI themselves.

Conclusion

Faculty members in Uganda's public universities possess foundational knowledge of competence-based education, but lack the specialised competencies required for inclusive, innovation-driven teaching for SwVI. Institutional capacity remains limited by insufficient assistive technologies, inadequate infrastructure, and weak implementation of disability inclusion policies. The universities need to strengthen institutional governance, and investment in accessible technologies and targeted faculty development is essential to advancing inclusive competence-based learning and integrating inclusive pedagogy into the university curriculum.

Recommendations

This study proposes recommendations for faculty knowledge and preparedness to implement competence-based, innovation-driven pedagogical approaches for students with visual impairment in public universities.

Faculty knowledge and preparedness to implement a competence-based curriculum for SwVI

The universities need to establish mandatory professional development for faculty members in connection with accessible, innovation-driven pedagogy; integrate UDL principles into all curriculum design processes; invest in accessible ICT infrastructure and assistive technologies; adopt W3C/WAI accessibility standards for all digital learning platforms; and strengthen disability support centers with specialised personnel.

The universities need to prioritise institutional resources, technologies, and infrastructure to support inclusive competence-based learning for SwVI in public universities, and faculty members need to engage in continuous learning about digital accessibility and inclusive instructional design, collaborating with disability specialists to adapt

course materials and foster positive attitudes towards innovation-driven, inclusive pedagogies.

All public universities need to design institutional support mechanisms and policies that encourage the adoption of competence-based, innovation-driven teaching for students with visual impairments.

Faculty attitudes towards the implementation of the Competence-Based curriculum for SwVI

On faculty attitudes towards adopting inclusive, competence-based, innovation-driven teaching practices for students with visual impairment, there is a need for further awareness-raising to transform the attitude of all faculty members towards designing and implementing a competence-based curriculum that is inclusive of SwVI. HEIs should solicit funding and provide additional support to teachers implementing the competence-based curriculum.

Institutional resources, technologies, and infrastructures available to support an inclusive competence-based curriculum

The following recommendations were provided regarding technologies, infrastructures, and inclusive support for the competence-based curriculum:

First, the higher education institutions should mandate training for all teachers on the competence-based curriculum at the departmental, faculty, and school levels. The study recommends that universities provide funding incentives for those who implement inclusive, competence-based teaching by purchasing inclusive resources for SwVI, such as modern assistive technologies.

Second, the higher education institutions should improve its infrastructure to make it accessible to all students, including SwVI. Also, the physical environment should be adapted for easy accessibility. It should include the structure, such as ramps, walkways, well-lit classrooms, and the provision of assistive technologies such as computers with software installed to facilitate the teaching of SwVI using a competence-based curriculum. There should be a resource room established at universities across all faculties and schools, where SwVI would have access to remedial lessons.

Institutional support mechanisms and policies for the adoption of the competence-based curriculum for SwVI

The study recommends that the MoES should provide funding incentives for universities that implement inclusive, competence-based teaching.

The ministry should design robust monitoring mechanisms in collaboration with the National Council for Higher Education (NCHE) to enforce accessibility audits and compliance reporting across public universities, and to align higher education policies with international accessibility frameworks.

The NCHE should conduct human resource audits and evaluate the kind of persons to be recruited to facilitate the implementation of the competence-based curriculum and innovation-driven teaching for SwVI in both public and private universities in Uganda.

The Government of the Republic of Uganda should liaise with the NCHE to monitor the implementation of competence-based innovative training.

Limitations of the Study

The study was conducted based on the reviewed literature on competence-based curriculum and innovation-driven teaching. The study had some limitations. The study was limited to reviews published over the past six years, from 2020 to 2025. Also, most of the reviews in the study pointed only to articles and publications related to public universities in Uganda. Private universities, which attract the largest number of students, were excluded from this study. Future researchers should further explore the implementation of the competence-based curriculum for SwVI in private universities in Uganda. The study was intended to explore the implementation of a competence-based curriculum for SwVI. Other areas of disability, such as hearing impairment, intellectual impairment, dyslexia, dyscalculia, dynomia, and dysphonia, among others, were not explored and need to be further examined by future researchers. The study was also limited to policies and government reports published in Uganda from 2020 to 2025. Additional studies can be conducted based on these reports and policies in East Africa or the rest of Africa.

References

African Committee of Experts on the Rights and Welfare of the Child (ACERWC) / UNICEF regional study. (2024). "Continental Study on the Status of Children with Disabilities in Africa" (March 2024). African Committee of Experts on the Rights and Welfare of the Child (ACERWC) / UNICEF regional study. (Useful for pan-African context and policy comparisons). *African Committee of Experts on the Rights and Welfare of the Child (ACERWC) / UNICEF Regional Study*.

Ampratwum, F. O. (2025). *Educational Approaches Using Emerging Computing Technologies in Ghana A Qualitative Exploratory Study*.

Amri, A. M. (2021). Teachers' perception and readiness towards adaptive learning in the covid-19 pandemic: Thematical content analysis study. *AL-ISHLAH: Jurnal Pendidikan*.

Amri, N., Kistemaker, M., & Bwalya, J. (2022). *Competence-Based pedagogy in higher education: Trends and implications for inclusive learning.* (14(3), 112–129.).

Ashraf, H. A., Iqbal, J., & Ahmad, M. (2023). Exploring the nexus of transformational leadership, individual and organizational factors in mitigating counterproductive workplace behavior. *Journal of Business and Management Research*, *2*(2), 71–85.

Baguma, R., & Wolters, M. K. (2021). Making virtual learning environments accessible to people with disabilities in universities in Uganda. *Frontiers in Computer Science*, *3*, 638275.

Bakkabulindi, F. E. K. (2024). National Council for Higher Education of Uganda: A call for trimming of its mandate and increasing of its staffing and funding. In *Higher education governance and management in Africa: Continental, regional, and national perspectives* (pp. 197–216). Springer.

Edward, F. (2024). Mandate and Increasing of Its Staffing. *Higher Education Governance and Management in Africa: Continental, Regional, and National Perspectives*, 197.

Emong, P., & Eron, L. (2016). Disability inclusion in higher education in Uganda: Status and strategies. *African Journal of Disability*, *5*(1), 1–11.

Emong, P., & Zeyen, A. (2023). Exploring equality and non-discrimination of disabled students in policy and practice in public universities in Uganda. In *Research handbook on disability policy* (pp. 421–436). Edward Elgar Publishing.

Grossi, A., Dinku, T., Hansen, J., Nakayiwa, F., Mwanjalolo, M., Kibe, A. M., Nakyobe, J., Amitu, D. M., Nimusiima, A., & Wasonga, O. V. (2023).

University Climate Curriculum Technical Writeshop for the RUFORUM Curriculum Platform.

Hong, Q. N., Fàbregues, S., Bartlett, G., Boardman, F., Cargo, M., Dagenais, P., Gagnon, M.-P., Griffiths, F., Nicolau, B., O'Cathain, A., Rousseau, M.-C., Vedel, I., & Pluye, P. (2018). The Mixed Methods Appraisal Tool (MMAT) version 2018 for information professionals and researchers. *Education for Information*, *34*(4), 285–291. https://doi.org/10.3233/EFI-180221

Jaber Fadlallah, K., Kosremelli Asmar, M., & Stephan Yeretzian, J. (2025). *Disability in Lebanese higher education: Unveiling students' experiences*. *10*, 1645115.

Kibga, E. S., Sentongo, J., & Gakuba, E. (2022). Development of chemistry learners' problem-solving skills through hands-on instructional model. *Development*, *11*(4), 2029–2038.

Kibuuka, E. (2025). The Evolving Higher Education Landscape in Uganda: Issues, Challenges, and Propositions. *International Journal of African Higher Education*, *12*(1), 1–27.

Kyambade, M., Kisseka, R., & Namatovu, A. (2025). Blended learning models in Ugandan higher business education: Best practices and lessons learned. *Cogent Education*, *12*(1), 2545329.

Léonard, D. J., & de Dieu, D. J. (2021). *Effect of competency-based training on employability of technical and vocational youth graduates*.

Lwanga, I. (2025). *Challenges and experiences of teachers towards the competency based curriculum in secondary schools in Mutungo Parish*.

Mahaseth, H. (2018). The Marrakesh treaty and the approach towards social inclusion. *Stockholm Intellectual Property Law Review*, *1*(2), 52–61.

Makoelle, T. M., & Burmistrova, V. (2025). Mentoring of pre-service teachers as a method of enhancing effective inclusive teaching: A collaborative action study. *South African Journal of Education*, *45*(4), 1–13.

MENSAH, C. M. (n.d.). Protection of children in the African Human Rights System: Framework and Institutions. *Children's Rights in Regional Human Rights Systems*, 235.

Mensah, M. A. (2020). *Higher education access and participation for persons with disability in Ghanaian public universities*.

Moher, D. (2010). Corrigendum to: Preferred reporting items for systematic reviews and meta-analyses: The PRISMA statement. International Journal of Surgery 2010;8:336–341. *International Journal of Surgery*, *8*(8), 658. https://doi.org/10.1016/j.ijsu.2010.07.299

Morgado, B., & Sánchez-Díaz, M. N. (2024). Teaching for all: Profile of faculty members who facilitate the success and inclusion of students with disability. *European Journal of Special Needs Education*, *39*(2), 281–296.

Moses, A., & Prema, K. (2026). Navigating Administrative Prerequisites For Effective Implementation of Competency-Based Curriculum In Universal Primary Education Schools: A Case of Otuke District, Uganda. *International Journal For Research In Educational Studies*, *12*(1), 01–10.

Munn, Z., Peters, M. D. J., Stern, C., Tufanaru, C., McArthur, A., & Aromataris, E. (2018). Systematic review or scoping review? Guidance for authors when choosing between a systematic or scoping review approach. *BMC Medical Research Methodology*, *18*(1), 143. https://doi.org/10.1186/s12874-018-0611-x

Nakibuuka, L.-M. (2026). *Higher Education Attainment: A Comparative study of Higher Education performances between students with A-Level only entry qualifications and students with alternative qualifications.*

Nyanzi, R., & Mahmood, F. (2026). Educational Policy and Reform in Uganda: Historical Evolution, Contemporary Challenges, and Prospects for Inclusive Development. *Education Policies and Practices in the Global South, Volume One: Basic Education*, 45–66.

Nyanzi, R., Mahmood, F., & Nahar, L. (2024). *Investigating faculty use of assistive technology through closed captioning and reading aloud through the lens of ecological systems theory*. 1933–1935.

Obondo, F., Katam, E., & Ogeta, N. (2026). Teachers' Preparedness to Utilise Differentiated Instruction in Kiswahili in Junior Schools in Homa Bay County, Kenya. *Journal of Popular Education in Africa*, *10*(4), 5–23.

Odong, D. N., Bhuinya, M., & Bika, S. L. (2026). *Equitable Support Mechanisms for Female Students with Visual Impairment in Higher Education: A Comparative Study of India and Uganda*. *3107-7528*, *01*(03). https://doi.org/https://doi.org/10.70798/tgjct/010300012

Odong, D. N., Bika, S. L., Niyisabwa, O. T., & Mukhwana, M. (2026). From Policy to Practice: A Comparative Implementation of Disability-Inclusive Higher Education in Uganda and India. *Article*, *13*(04), 10. (From Policy to Practice: A Comparative Implementation of Disability-Inclusive Higher Education in Uganda and India). https://doi.org/https://doi.org/10.56975/tijer.v13i4.162280

Okoli, C. (2015). A Guide to Conducting a Standalone Systematic Literature Review. *Communications of the Association for Information Systems*, *37*. https://doi.org/10.17705/1CAIS.03743

Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., Shamseer, L., Tetzlaff, J. M., Akl, E. A., & Brennan, S. E. (2021). The PRISMA 2020 statement: An updated guideline for reporting systematic reviews. *Bmj*, *372*.

Peter, T., & Tumwesigye, K. (2025). The Impact of Assistive Technology on Learners with Visual Impairment in Uganda. *Asian Journal of Education and Social Studies*, *51*(5), 531–542.

Rodríguez-Villamil, J. L. R., Pedrero, F. M. A., & Acilu, A. (2025). The Diagram as Rosetta: Academic Review and Proposal for Improvement in the Methodological Diagramming of Service Design. *The International Journal of Design Education*, *20*(1), 85.

Sikoyo, L., Ezati, B. A., Nampijja, D., Asiimwe, J. A., Walimbwa, M., & Okot, D. (2023). *Staff capacities for inclusive teaching and learning of students with visual impairment: A case of public universities in Uganda*.

Ssenyonga, J., & Hecker, T. (2021). Job perceptions contribute to stress among secondary school teachers in southwestern Uganda. *International Journal of Environmental Research and Public Health*, *18*(5), 2315.

Ssenyonga, R., Lewin, S., Nakyejwe, E., Chelagat, F., Mugisha, M., Oxman, M., Nsangi, A., Semakula, D., Rosenbaum, S. E., & Moberg, J. (2024). Process evaluation of teaching critical thinking about health using the Informed Health Choices Intervention in Uganda: A mixed methods study. *Global Health: Science and Practice*, *12*(6).

Thomas, M. (2021). Epilogue: Critical project-based learning and moving forwards in the post-pandemic university. *Project-Based Language Learning and CALL from Virtual Exchange to Social Justice*, 263–271.

Tusiime, H. M., & Alemu, N. E. (2023). *Embracing E-Learning in Public Universities in Ethiopia and Uganda*.

Watsemba, A. N., Moya, M. B., & Mugisha, D. (2024). Pedagogical Beliefs and Intention of Teaching Using ICT in Uganda's Higher Education Institutions. *University of Dar Es Salaam Library Journal*, *19*(1), 19–41.

Yamo, I., & Muthee, J. (2026). Barriers to accessing and effectively using assistive technology among learners with learning disabilities in the Braeburn International Schools. *European Journal of Special Education Research*, *12*(1).